

2872



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: MARCO TECHT et al.) Examiner
Serial No.: 10/019,373) Unknown
Filed: 12/26/2001) Group Art
For: MONITORING DEVICE FOR OIL) Unknown
BURNERS)

March 2002

RESPONSE TO NOTIFICATION OF MISSING PARTS

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In response to a Notice of Missing Requirements mailed
February 19, 2002 enclosed herewith is:

- 1) Copy of subject Notice;
- 2) Fully executed declaration for subject
application; and
- 3) Check in the amount of \$130.

Please charge any additional fees or credit any
overpayment to account no. 08-0114.

03/15/2002 MNGUYEN 00000131 10019373
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Respectfully submitted,

HEREBY CERTIFY THAT THIS CORRESPONDENCE IS
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MARCH 1 2002
3/1/02
(DATE SIGNED) WALTER A. HACKLER
REG. NO. 27,792

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RECEIVED
MAY 13 2002
2800 MAIL ROOM

March 2002

SUBMITTAL OF BRIEF DESCRIPTION OF
NON-ENGLISH PRIOR ART

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Enclosed herewith is a Brief Description of Non-English
Prior Art for the hereinabove referenced patent application.

The described art was listed in an Information Disclosure
Citation (PTO-A820) filed with the application.

Please enter the enclosed papers into the file of the
subject application.

Respectfully submitted,

Walter A. Hackler, Reg. No. 27,792
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(DATE SIGNED)
WALTER A. HACKLER
REG. NO. 27,792

Brief Description of non-English Prior Art

DE 196 50 972 A1 discloses a method for monitoring and controlling burning processes by means of radiation measurement by sensor detection of at least one spectral region of a flame, linkage of the selectively reinforced signals with empirically determined method constants, evaluation and use of the signals as actuating variable for regulation and monitoring of the burning process with the following steps:

for suppressing at first infrared radiation

a) evaluation of the different frequency portions in the useful and interfering signal for suppressing the interfering signal,

b) thereby the infrared portion (interfering signal) is reproduced in the measuring signal by a slowly changing DC signal,

c) wherein the light emission of the flame (10) as useful signal contains frequency portions between 100 and 10000 Hz,

d) such that separation of disturbances in the measuring signal is carried out by corresponding lower and upper limiting frequency of the signal processing, and moreover for increasing the signal-noise-ratio

e) detection of the flame (10) through evaluation of a predetermined number of measuring periods of a defined length and

f) thereby detecting in each measuring period the peak value of the respective signal and detecting for this period "FLAME ON" (9) by a reference value,

g) a "FLAME ON" state is declared as valid only if the peak value of the majority of measuring periods is above the reference value,

wherein finally for suppressing potential false alarm sources

h) yellow and blue burners are differentiated by discrimination of amplitude and/or frequency portions in the detected signal.

The arrangement for carrying out this method comprises a burning radiation detector (1) which is disposed outside of a burning chamber (12) and is directed to a flame (10), a signal processing unit (13) which generates a flame monitoring signal for burner control (15) and provides an actual value signal via a further line to a controller (14) for air or fuel supply and an air supply or fuel actuating member (16), which is connected to the controller (14), for setting a burner (17).

DE 31 08 409 C3 discloses an automatic flame guard for measuring the ultraviolet light portion and a further light portion with a radiation receiver which comprises a UV tube

and a photo transistor and two separate measuring channels, wherein the first measuring channel measures the UV light portion and the second measures the further light portion which is substantially in the IR wavelength region, wherein the measuring channels are connected to a maximum selection switch disposed in the region of the radiation emitter via one frequency voltage transformer (39,57) each, which are connected to a switching amplifier (5) which is spatially separated from the radiation receiver (1) via a connecting line.

DE 12 69 282 discloses an automatic flame guard for heating systems which are supplied with liquid, powdery or gaseous fuel from a motor-driven supply pump and comprise an electric ignition means. The automatic flame guard comprises a photo-electric resistance cell, an electromagnetic relays (flame relays) whose coil is switched in parallel to the resistance cell and which controls the ignition means and the engine, a motor circuit for keeping the normal burning operation, a current limiting resistance disposed in series with the flame relays coil and the resistance coil, a delaying element (3;3-1) which is connected in series with the resistance cell (2) which loses completely or partially its resistance only after a certain time from switching on the heating system, and a contact (4) disposed in a short-circuit branch for the delaying element which is closed when the flame relays is not excited or has tapered off.

DE 24 29 289 A discloses a burner control comprising a light-sensitive resistance element which monitors the flame. This burner control comprises a controllable semiconductor (15) in a control and/or indicator circuit whose control electrode is connected to an anti-parallel circuit of two diodes (18), a trigger circuit (19 to 28) which has a series connection between a capacitor (20) and a resistance (19) between the burner feed voltage, wherein the common connection point between capacitor (20) and resistance (19) is connected to the anti-parallel circuit of the two diodes (18). A network (19) is connected in parallel to the capacitor (20) which has a programmable unijunction transistor (22) wherein the light-sensitive resistance element (28) is disposed between the control electrode (26) and the cathode (24) of the unijunction transistor (22). The network which is connected in parallel to the capacitor (20) comprises a diode rectifier bridge (21) for feeding the unijunction transistor (22) and the light-sensitive resistance element (28).